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The AGRICULTURAL EDUCATION Magazine

"AFTER what I owe to God, nothing should be more dear or more sacred than the love and respect I owe to my country." —*De Thou*

VOCATIONAL AGRICULTURE
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Editorial Comment

Are We Too Soft?

ADMITTEDLY war times are trying times. The preservation of our nation comes first in our thoughts and deeds, and it is well that it does. But we have such faith in the contribution of our form of government to the evolution of society and the progress of the world that we have abounding confidence in ultimate victory for our cause. The outcome is not questioned. We will win!

On this assumption it is well to take inventory of the present with a view to the future. In the field of vocational teaching in agriculture, departments of vocational agriculture have been closed, sacrifices have been made, standards have been disregarded, qualifications of teachers have been lowered, efficient teaching schedules have been disrupted, nonvocational duties have been assigned to teachers, athletic coaching has been winked at, and necessary travel has been restricted in many cases by gas rationing.

To the extent that these conditions of deterioration have been due to a bonafide war effort, to just that extent they may be condoned, but only for such a period as they are necessary to win the war. When the S-day is passed, then it will be time to take inventory and return to desirable conditions. To meet this change, the query is raised, "Are we too soft?"

We have 25 years of experience now which we did not have in 1918. We know something of the conditions which make for success in agricultural departments—conditions within the community, conditions pertaining to physical plant and facilities, conditions in the form of attitudes and beliefs of those in administrative positions. Are we willing to go on record by making a study of these conditions within all departments, both closed and open, and defining the conditions which are adjudged most desirable for the maintenance of satisfactory departments, and holding to these conditions as standards in locating new departments when the program is expanded after the war? Or, are we too soft?

In altogether too many departments working facilities are inadequate. With the farm shop and farm machinery program so greatly emphasized by the emergency related to food production for the war, it is most timely that adequate room facilities be demanded in both classroom and shop before a department is approved. With the leverage of the needs of adult education available, it would seem that this is the time to insist on satisfactory shop and classroom facilities before reopening a department or approving a new one. Will we do it? Or, are we too soft?

WITHIN many departments, particularly during the years of the depression, we found many teachers handicapped by a shortage of adequate instruction aids—reference books, bulletins, visual aids, and such. In some departments the technical information being taught was found to have been out of date for some eight or 10 years. With a great demand for new departments when the war is over, it will be the appropriate time to insist upon provisions for maintaining, year by year, adequate working facilities and instructional aids as the basis of reimbursement. Are we ready to meet this situation and to state our demands? Or, are we too soft?

With programs of instruction for high-school boys, young farmers and adult farmers together with such supplementary educational agencies as the Future Farmer organization and Young Farmer Associations, there are enough vocational duties to utilize the time of one teacher, and oftentimes more, in most any rural community where there is a score or more of farm boys interested in instruction in agriculture. This means that, usually, there should be no duties assigned the teacher of agriculture in the nonvocational field. To support this position, let us think of conditions in 1918 when the early vocational departments were first approved. At that time administrative officers were approached with a proposal that there would be added to their high-school offerings the services of a teacher trained in agriculture and a program of instruction and other duties in the area of approved vocational instruction. All other activities of the school would be carried on by the then existing faculty—an additional program and an additional man. This was gladly accepted. But since then times have changed. And, for one reason or another, "chiseling" on the time of the vocational teacher has gradually crept in, in some cases, in assigning first this duty and then that—the principal of the high school, the coach of athletics, the teacher of nonvocational classes, and so forth. The effect obviously has been a gradual weakening of the vocational program of the teachers so handicapped compared with what a full-time qualified vocational teacher might perform. It should be remembered and insisted that the Smith-Hughes Act was not enacted to aid a community to employ a principal, a coach or other necessary high-school teacher. It was enacted to promote vocational education. As we undertake the expansion of our depleted program at the close of the war, we are in a position to regain this lost ground and to insist upon vocational programs only for vocational teachers. Are we willing to take a stand to prescribe the duties and to insist upon their being assigned to the teacher of vocational agriculture? Or, are we too soft?

Also there is the time schedule of the teacher of vocational agriculture for his classes, the amount and the distribution. In many departments this has been so disarranged as to effect seriously the efficiency of the instruction. In some schools the vocational half-day prevailed quite generally, and in others the 90-minute period. Originally these were regular daily schedules providing ample time for discussion, laboratory and shop practice, and practice in the field. Of late, in many departments the vocational half-day has gone; the 90-minute period daily has become, in some cases, single periods three days a week and double periods two days; in others the double period has become two nonconsecutive single periods, not to mention the number of individual cases where boys here and there have had other classes scheduled so that they could attend the agricultural classes only part time. Extensive training as in vocational education demands adequate time—appropriately arranged and efficiently used. Teachers admit that in these badly broken schedules they waste too much time "starting and stopping." Field practice is practically eliminated. The result can be only an inefficient job in vocational education—the job for which the federal money was appropriated and which the participants have a right to demand. Some day the war will be over, and use of it as a reason or an excuse will no longer prevail. The rights of the young people seeking vocational education demand a return to full-time efficient vocational periods. Are we prepared to restore the necessary schedules? Or, are we too soft?

In several states one of the great drawbacks to teachers of vocational agriculture is the fact that the necessary travel of such teachers in the supervision of farming programs and in doing community work has not been separated from their monthly salaries. Now is an appropriate time to plan to make that separation, so that salaries of teachers of agriculture may be compared fairly on a monthly basis with that of other high-school teachers. In all such states where that change should be made are we willing to make it before an expanding program is undertaken? Or, are we too soft?

THE teacher shortage has resulted in the lowering of qualifications and the admission into employment of applicants, many of whom lack professional training for the job and some of whom are deficient in technical information. As a result, we now find in service many teachers, some with full training as in normal times, whose performance in terms of accomplishments on the job is decidedly below standard. That they are "better than nothing" may justify their employment, though many would doubt it. Our future need is that objective measurements shall be utilized to determine approximately the quality of service rendered so that inferior teachers shall be detected and replaced. Will we be ready to apply an evaluation and to take such action? Or, are we too soft?

These and other conditions of weakness which have permeated our program during this emergency are ours to contend with. Upon our dealing with them will depend the strength and character of our vocational program after the war when times become normal. If we want a vigorous vocational program in every school and community where a teacher of vocational agriculture is employed, we must expect to be masters of the situation, to make demands based upon objective evidence, and to insist upon those demands being met in the interests of a strong, vigorous, going program of agricultural education. Are we equal to the occasion? Or, are we too soft? The answer is "Yes."

Methods of Teaching

G. P. DEYOE

Improving Farm Machinery Course Content

GEORGE E. WEBSTER, Supervisor and Teacher-Trainer, Burlington, Vermont

SPECIAL untrained teachers have demonstrated thru the OSYA program that they can do a very creditable job of providing instruction in the repair of farm machinery and the construction of equipment. Our responsibility is to improve such courses.

Forty-five courses enrolling 620 farmers were studied by the author* as a group which was respresentative of the people served by farm machinery courses during the school year, 1942–1943.

A brief summary of the findings on farmer enrollment, activities, instructors, observations, and suggestions for improving courses follow.

Farmer Enrollment

Age: The group ranged from 17 to 72 years of age, with all age groups represented.

Education: Seventy-one percent had completed the eighth grade, 36 percent were high-school graduates and four percent were college graduates. Twenty-nine percent failed to complete the elementary school.

Distance to Course Center: Seventy-six percent lived within a five-mile radius of the course center, 20 percent within one and one-half miles and all within a radius of 12 miles.

Marital and Family Status: Over 60 percent of the enrollees were married; they had an average of 1.8 children at home.

Farming Status: Fifty-five percent were farm operators, 29 percent were hired men and five percent were in "other status." The daughter of one operator was enrolled.

Type and Size of Farms: All were dairy farmers having an average of 27 dairy cows per farm and an average of 101 hens per farm.

Value of Farm Machinery and Equipment: Farmers estimated the value of their farm machinery and equipment at $1,205,580 or an average of $2,010 per enrollee.

Availability of Selected Items of Equipment: Enrollees were asked to check whether or not 10 selected items of equipment were available on their farm. These data are shown in Table I below.

From Table I it is obvious that less than half of the enrollees had a workshop of any kind on their farm in which to do repair or construction work. Considering the fact that enrollees came from the larger and better equipped farms, this fact bears special significance as to the real need for a community center of instruction for the repair of farm machinery and the construction of equipment. A comparison of the percentage of farms having running water with those having water bowls and of farms having electricity in the barns with those having electric coolers, and notation of the fact that only 60 percent had milking machines and 54 percent had electric fences, is most significant in the light of the great need for improved labor-saving practices and devices on all farms. Data on the percentage of farms having automobiles tractors and trucks is indicative of the need for training in the field of auto, truck and tractor maintenance.

Value of Hand and Power Tools Available: Enrollees estimated the value of hand and power tools available for repair work on their home farms at $54,200, an average of $87.00 per enrollee or an investment of slightly over five percent of the total investment in farm machinery and equipment.

TABLE I

Comparison of Farms of Enrollees With or Without 10 Selected Items of Equipment Based on Farms of 600 Enrollees* in 45 Courses

Items	Farms Having	Farms Not Having	Percentage Having
Automobile	492	108	82
Tractor	320	280	52
Truck	357	243	60
Milking machine	362	236	60
Running water	528	72	88
Water bowls	272	328	46
Electricity in barns	481	119	81
Farm workshop	294	306	49
Electric milk cooler	336	264	56
Electric fence	328	272	54

*Corrected as to 20 enrollees not living on farms.

The Activities

Space does not permit a detailed breakdown of each unit of instruction. However, Table II indicates the frequency of jobs completed in the major instructional unit—farm machinery.

TABLE II

Enrollees Performing Repair Jobs on Farm Machines

Machines	Number of Enrollees
1. Mowing machines	72
2. Plows	55
3. Harrows	47
4. Cultivators	26
5. Corn planters	23
6. Side delivery rakes	22
7. Fertilizer and lime spreaders	20
8. Manure spreaders	19
9. Corn harvesters	18
10. Dump rakes	18
11. Hay presses	9
12. Others (including 18 different machines)	54
Total	383

An analysis of Table II shows that mowing machines, plows, and harrows were the machines most frequently repaired. Many of these machines had been discarded as no longer usable. It was frequently possible, however, by exchange of repair parts with other class members or purchase of new parts, to recondition many old machines at very little expense. The acquisition of skill in the repair as well as the adjustment of machines has been of great value to enrollees.

Summary of Instruction

The units of instruction carried on in the 45 courses, the number of demonstrations given, and the number of jobs completed are shown in Table III.

Table III shows that only 570 demonstrations were given to the 620 enrollees in 45 courses or less than one demonstration per enrollee and less than 13 per course. All instructors were required to make a list of demonstrations to be given. This was done before the classes started or during the first week of operation. The lists were also checked at the end of each course with the instructors. If courses are to be improved more demonstrations must be given.

Conferences with enrollees have indicated that they were more familiar with woodworking jobs than with any of the other 10 units of instruction, which may account for the relatively slight emphasis placed on woodworking demonstrations.

Certainly more than 47 demonstrations were needed in 45 courses on the care, identification and operation of shop equipment, since enrollees were generally unfamiliar with most of the hand tools and power equipment provided.

That special untrained teachers have given some demonstrations is obvious, but there is much need for further help and improvement in acquiring demonstration technique.

The Instructors

Age: The ages of instructors varied from 24 to 68 years.

Education: They had completed an

* Webster, George Edwin, The Discovery of Factors Involved in the Conduct of Courses for the Repair or Construction of Farm Machinery and Equipment. Thesis, Cornell University, 1943.

TABLE III

Units Taught and Demonstrations Given by Instructors, and Jobs Completed by 620 Enrollees in 45 Courses

Instructional Unit	Number of Demonstrations Given	Number of Jobs Completed
1. Arc or oxy-acetylene welding	108	267
2. Auto, gas engine, power unit tractor, trailer or truck	88	124
3. Care, identification and operation of shop equipment	47	0
4. Cold metal work	22	35
5. Farm and home electrical equipment	5	14
6. Farm machinery	173	383
7. Forge work	65	274
8. Painting and glazing	1	8
9. Soldering and sheet metal work	18	103
10. Tool fitting	23	104
11. Woodworking	20	290
Totals	570	1,602

average of 9.8 grades in school or 0.3 grade less than the 10.1 grades completed by the enrollees. However, the instructor having the least formal schooling, completing only grade six was, nevertheless, an exceptionally skilled machinist and welder. In fact, this particular instructor had an investment of over $2,000 in tools and equipment for repair work on his home farm. Thus, it is clear that other factors besides school grades completed are important in selecting special teachers for farm machinery courses.

Regular Occupation: Twenty of the 51 instructors, or approximately 40 percent, were garage mechanics.

Previous Teaching Experience: Thirty-three, or 65 percent, of the 51 instructors were men with no previous teaching experience.

Duration of Courses: Thirty-two courses, or 71 percent, operated only the minimum 36 hours. The remaining 29 per cent operated up to 60 hours.

Observations

None of the farmer's time in winter can be spent more profitably than in repairing his own machinery or constructing equipment. Enrollees in all courses showed keen interest in the hand and power tools provided in course centers. For the majority of the younger men on farms, as well as many older men, no part of the farming business is more appealing than that dealing with mechanics. Thus, the monetary return is high, interest is good and the learning opportunities are ever expanding. The fact that all enrollees have repaired machinery or new equipment to take home is, of course, an important consideration.

Improving the Courses

1. It is desirable that enrollees continue to participate in the organization, planning, and operation of courses by serving on advisory councils and advisory committees. Their help and guidance is invaluable in the selection of the hours to hold classes, in the selection of the instructor and in promoting a self-perpetuating group.

2. Courses of this type should be organized on a continuing basis from year to year. An integrated program series should be organized in order that future programs may be built on the foundation laid during the first year of operation.

3. Instructors should visit the home farm of each prospective enrollee before the course opens to assist in determining the essential construction and repair jobs.

4. Group demonstrations to be given should be listed before the class meets, added to from time to time as the program develops, posted in the shop, and checked off when given. Individual demonstrations should be given whenever necessary to supplement group demonstrations.

5. Job sheets should be provided for the construction of homemade, labor-saving equipment to supplement references, charts, and film strips. Blackboards should be available in all shops.

6. Good housekeeping practices need to be followed in course centers as a means of promoting good work habits among enrollees, as well as setting a desirable pattern to follow at home.

7. Farmers should be encouraged to establish a workshop including a place for hand and power tools on their home farms. The cost of equipment needed and a desirable arrangement of the equipment in the home farm shop might well receive special emphasis.

8. Special emphasis should be given to safety precautions, particularly those related to untrained labor when operating machinery.

9. The exchange of repair parts among class members should be further encouraged.

10. Repair orders should be labeled in some way to indicate that the material requested is for a repair school, and not a routine order.

11. Length of courses should be extended to at least 12 weeks with bi-weekly meetings. Daytime meetings should be encouraged whenever practicable.

12. Wearing surfaces of machines should be lubricated and all machinery and equipment painted before being taken from the shop. Proper storage of equipment should receive special emphasis.

13. The identification, care, and proper use of shop equipment is of great importance and should receive increased attention in all courses. Each piece of equipment should be demonstrated before being used the first time and, later, as the need becomes evident.

14. Good demonstrations are a most effective teaching method. Even tho enrollees can read about how to do a particular job, or be told, they will learn more quickly and correctly if shown how the job should be done. All instructors should master the technique of giving a demonstration and give demonstrations at all meetings of farm machinery courses. The approach should be as natural as possible and the demonstration as brief as is practicable. Thus an instructional and service program may be combined.

15. After courses are completed, teacher's follow-up visits should be encouraged. Strong and weak points in the instructional program may be brought to light in this way and thus improve future courses.

16. Supervisory visits in the early stages of all programs may be helfpul as a means of in-service improvement of special untrained teachers. Whenever local teachers of agriculture are available to serve as local supervisors, this should be their responsibility. If no teachers of agriculture are located in the area, county or state supervisors should be available for this purpose.

17. A series of training meetings for teachers of farm machinery courses is needed in many areas. These might be organized on a county basis in four or five all-day sessions or eight to 10 meetings of two or three hours duration.

Repetition for Fixation

INTEREST, understanding, and use are the three most frequently mentioned members of that quartet of stalwarts of good teaching. But, what of the fourth member—repetition, if necessary for fixation? With the wide adoption of the use of life situations as the basis of good teaching, memorization with its too frequent use and too abstract application was tossed aside. Considering its kind, this was well. The evils of teaching based on mere memorization abound in the minds of many of us. But, our factor—repetition, if necessary for fixation—is a respectable member of good classroom procedure and should not be overlooked.

Most of the fundamental knowledge which our students should retain consists of principles derived with their reasons, standards generally accepted from trial and error, and such other generalizations as characteristics, requirements, and techniques. In fixing these in mind repetition has its appropriate place in separating the grain from the chaff. To illustrate, a class has been studying the improvement of a boy's poultry house. As a result of readings and discussions have come out certain established principles of foundation and floor construction, characteristics of an effective system of ventilation, standards with respect to perch and feeder space, and understanding which means the "why" of each of these various generalizations when known. It is these generalizations that the boys should *retain for use* in life. It is well for the students to bring them together by repeating or listing them. Also, at some succeeding date when further discussion may be carried on, further repetition for fixation is resorted to, in some different and interesting manner. Such repetition makes the students aware that these facts should be retained, —an objective of any good teacher. We need not resort often to rote memorization, but let us not forget our fourth factor, repetition when necessary for fixation.

Instruction on the Job

WESLEY P. SMITH, Regional Supervisor, California

THE very nature of California's agriculture necessitates dependence upon great numbers of agricultural workers if production of essential foodstuffs is to continue unabated. The "hired man" has never been a character on California farms; instead, it has been "hired gangs" of workers. Now, the California teacher of agriculture is called upon to train the farmer or his foreman to quickly transmit in turn his skills to the "hired gangs."

Former sources of the "hired gangs" have almost disappeared. The Japanese have been evicted; the Filipinos have joined the armed forces; the out-of-state itinerant has had his traveling handicapped by rationing; the native agricultural workers have found ship and airplane construction more remunerative. There is today, and there will be tomorrow, a dearth of experienced farm workers in California.

Mathematically, there is no solution to the problem of producing more with less help. On the other hand, however, we know that the farmers will not accept such a stalemate. They will find a solution and will continue to produce at a rate never before witnessed.

The answer to this problem has become evident already. During 1943 California agriculture began to make use of hitherto unexploited sources of labor. This labor, taken from a great pool composed of older school children, housewives, business and professional men on vacation, foreign workers, military personnel on leave, etc., harvested, for the most part, California's crops. From this same pool will come the planters, the cultivators, the irrigators, the pickers, and the packers of the 1944 crops.

It is quite evident that these are not experienced farm workers. In fact, they are not even experienced workers since many of them have never held jobs of any kind.

The obvious answer to the problem of getting so many inexperienced workers to do the jobs expected of them is that they must be trained. And who will do the training? The farmer and his foreman, of course, for who knows better the agricultural skills necessary to get the work done?

In order to help the farmer develop a method of passing his skills on to a green worker, the Bureau of Agricultural Education has developed a program which adapts Job Instruction Training to agriculture. Already spread over the state are more than 150 certified J.I.T. Trainers and already more than 2,500 farmers and their foremen have participated in the regular 10-hour J.I.T. conferences. For the most part, the trainers are teachers of vocational agriculture located in the key farming districts.

J.I.T. Proves Effective

That farmers profit by such conferences is an accepted fact. That farmers appreciate such help is borne out by unsolicited testimonials, which come by the hundreds from the men who have attended the J.I.T. schools. Typical reactions of farmers to J.I.T. are found in these written statements made following such meetings. The first is made by a large operator who states, "The series of classes in which some 40 of our foremen have had J.I.T. training has filled a long-felt need in our organization. The interest shown was most gratifying. Attendance was almost 100 percent. It has been brought home to those of us who, from doing the more ordinary tasks about the ranch, have come to take on more responsibility, that even the most common and ordinary job we have to put across needs considerable thought and organization on the part of the foremen for effective and economical accomplishment by the fellow he instructs to do the job."

The other statement, made by a small operator, follows: "Job Instruction certainly proved to me that farmers were as much in need of instruction as anyone else. Results were more than I ever expected. I was able to secure a better, more-profitable harvest. I feel that the men I instructed also profited by my being able to instruct. The hours I spent in the Job Training class have proved to be as valuable as any education I have ever received."

It would be possible to go on at length with similar statements for there has never been a case where the farmer or foreman did not profit from a J.I.T. unit, and almost everyone completing the work cannot say enough regarding his complete satisfaction.

Even tho it excludes the Professional Section, "Instruction on the Job" by Mr. Smith appropriately follows the contribution last month by Doctor Sutherland, presenting in great detail the procedure in J.I.T. training. Mr. Smith's article is an appropriate example of this training in a California community.

Step 1—Prepare the worker

Step 2—Present the operation

Step 3—Tryout performance

Step 4—Follow-up

Before vs. After

In order to illustrate how J.I.T. actually works on the job, the following example has been selected. It concerns a true case altho names and places are purposely omitted.

Two brothers operate an irrigated farm of 100 acres near the coast. Last year, anticipating demands for a large production of tomatoes, 40 acres were planted to this crop. During the growing season one brother attended and successfully completed a J.I.T. unit. When the first days of harvest came, this brother was called upon for other duties and the older brother assembled and started a crew of army personnel wives. The first day, picking on the per-piece basis, the average earnings of the group was approximately $2.00, or about 30c per hour. The second day only three of the original 12 women returned. The others evidently felt that the 30c per hour they received did not compensate for aching backs and soiled clothes and hands. The crew was filled with other volunteer workers but with the same results at the end of the day.

This went on for a few days, and since too few tomatoes were being picked to keep the packers busy, matters were fast approaching a climax. This climax arrived in the form of the J.I.T. trained brother and the local farm labor manager, who also was a J.I.T. graduate. The picking crew was carefully instructed on the following morning with all three men remaining in the field with the workers. At the end of that day, and each day following, the results were astounding. Not only were the same laborers coming back each day, but they were now averaging nearly $6 a day and were not working as hard as when they had averaged $2 per day. Furthermore, the professional packer couldn't keep up with the new flow of tomatoes and several more packers were put to work.

All in all, a desperate labor situation was averted. Costs of production were lowered to an all-time level for this ranch. This crop, another of snap beans, and other produce, were efficiently and economically handled.

The illustrations which accompany this article are actual pictures taken in the fields of this same ranch. The job instructor is the J.I.T. brother, and the crew is made up of women volunteers already described.

Training Procedure

Briefly, this is the instruction procedure: The crews were first assembled and given the preparation step. The responsibility of gathering the crop was stressed and each worker put into the frame of mind where he or she was really interested in learning the job. The second distinct step was the presentation of the operation. The job instructor went thru the entire process, completely and patiently. Key points were stressed and questions were asked and answered.

The third step consisted of trying out one or two members of the crew. Corrections were made and questions asked. The fourth step consisted of immediate follow-up in the field. Each worker was put on his own and additional helpful hints given.

Simple? Old fashioned? Sure, but also very effective. Time was saved, the job was done, and the workers were satisfied.

The California farmer, long a jack-of-all trades, had had another role added to his long list of qualifications—that of being an instructor. Truly, instruction on the job is his salvation.

Training and Supervising Emergency Teachers of Vocational Agriculture

N. E. WILSON, Teacher Education, State College, Mississippi

IN AN attempt to offset a critical situation that developed soon after the declaration of war, a training program was inaugurated to prepare emergency teachers to fill vacancies caused by the entrance of the regular teachers into the armed forces. We were faced with the problem of preparing teachers for these positions or allowing a wholesale lapsing of departments where the work had been in progress for several years.

Notices were sent to a number of men having two years, or more, of college training. They were told about the situation, the possibilities and the nature of the courses to be offered. A satisfactory response was secured and a beginning class of 12 was enrolled.

The length of the course was 21 weeks divided into seven periods of three weeks. During each period a program carrying four hours of credit was completed. The curriculum in Applied Agriculture and Agricultural Education was as follows:

I. Applied Agriculture Subjects	Cr. Hrs.
A. Agronomy:	
Field Crops	2
Soil Types & Uses	1
Fertilizer & Manures	1
B. Agricultural Economics:	
Farm Management	2
C. Agricultural Engineering:	
Terracing	1
Farm Machinery (Repair and Operation)	3
D. Animal Husbandry:	
Feeds and Feeding	1
Livestock Production—Dairying, Poultry, Hogs	4
E. Horticulture:	
Fruits and Vegetables	2
F. Entomology:	
Insect Control	2
II. Agricultural Education	
A. Planning Instruction and Methods of Teaching	6
B. Teaching Farm Shop	3
Total	28

The courses were condensed and the most practical parts concentrated upon. The courses were taught by the regular college staff in the different departments under the supervision of members of the staff in Agricultural Education.

The 12 men finished the course, were licensed to teach as emergency teachers, and were employed in regular departments of vocational agriculture.

Supervision

These teachers have been supervised by members of the teacher-training staff and the District Supervisor of Vocational Agriculture. Only special points of emphasis will be mentioned here. They are:

1. The All-Day Program
2. The Evening Class Program
3. Food Production War Training Program
4. F.F.A.

Supervisory objectives of the four main points of emphasis were:

1. The All-Day Program
   - A. Setting up training programs.
   - B. Planning a program of supervision.
   - C. Preparing and using standard teaching plans
2. Evening Class Program
   - A. Organizing and setting up programs to meet the needs of the people in the different centers.
   - B. Organizing information to be used in teaching.
   - C. Preparing and using teaching plans.
   - D. Planning programs of supervision.
3. Food Production War Training
   - A. Selecting centers and courses for each.
   - B. Making budgets for all centers.
   - C. Selecting teachers for the different courses.
   - D. Providing for the training of special teachers.
   - E. Conducting classes according to the State Plan.
4. F.F.A.
   - A. Setting up a yearly program of work.
   - B. Providing special activities needed in developing abilities.

Evaluation

Based on their performance on the job, 50 percent of this special group shows as good performance as the average teachers trained in the regular way. Twenty-five percent shows fair to poor performance and 25 percent shows very poor performance. This type of training is considered worth while as an emergency measure. It is being offered again in the spring and summer of 1944 with minor variations.

Training Special Teachers of FPWT Classes

S. S. SUTHERLAND, Teacher Education, Davis, California

TEACHERS of vocational agriculture who have assisted and supervised special teachers of emergency war food production classes are in general agreement on the following:

1. That the practice of using practical people as instructors of these classes is sound.

2. That they do more satisfactory work with "skills" courses—laboratory and shop classes—than with production courses where a class discussion is involved.

3. That extreme care be used in the selection of these teachers to make certain that those selected have the respect of their "students."

4. That the teacher of vocational agriculture, as the course supervisor, can either make or break the course taught by a special teacher and is the key to its success.

5. That there are certain jobs for which the course supervisor must assume responsibility, even tho they are ordinarily the responsibility of the teacher, such as obtaining instructional materials and organizing the general course outline.

6. That it is necessary to give special teachers constant assistance in planning instruction and, even in some cases, in the instruction itself.

7. That not the least important of the supervisor's many jobs in connection with the supervision and training of special teachers is that of convincing the lay teacher that he should accept the responsibility of teaching one or more of these classes, and after that, of keeping up morale and enthusiasm.

8. That, while the use of special teachers is highly satisfactory and while it does enable the teacher of vocational agriculture to multiply and expand his individual efforts, it does not materially lessen the amount of work he has to do.

Summarizing, it seems that the problem of training special teachers is much the same in its broader aspects as that of training reguiar teachers of vocational agriculture in that its major divisions are selection, pre-service training, and on-the-job training and supervision. Whether the training of special teachers may be done best on a local basis with each teacher of vocational agriculture assuming the responsibility for all these phases of training or whether one or more of them might better be done on a state or regional basis, is an open question. At present it seems most logical to follow the former of these two plans—to place the direct responsibility for the selection, training and supervising of the special teachers in each community upon the local teacher of vocational agriculture—and have state teacher-trainers work thru and with local supervisors rather than directly with special teachers.

There are several ways in which teacher-trainers can function in assisting teachers of vocational agriculture in becoming, in effect, local teacher-trainers and supervisors.

1. Outline for use by "local teacher-trainers" a program for a series of training meetings in which special teachers are

(Continued on page 9)

Farming Programs

C. L. ANGERER

The Use of Credit by Students of Vocational Agriculture

R. W. CLINE, Teacher Education, University of Arizona, Tucson

R. W. Cline

FROM analyses of farming activities conducted by students of vocational agriculture, lack of sound financing seems to be rather consistently associated with unsuccessful programs. Students generally have attempted to finance their initial farming operations from individual savings, doles or loans from parents, store credit and other sources entirely inadequate for the needs of young men seeking establishment in a farm business.

Largely thru tradition, many farm families have considered credit an obligation to be avoided rather than an essential instrument of production. Such misunderstanding and lack of financial training tend to restrict the use of credit among prospective farmers and cause some to enter non-farming vocations that require less capital.

During the past few years there has been a marked increase in the use of credit among students of vocational agriculture. Some factors responsible for this trend are: the development of credit facilities appropriate to the needs of students, demand for larger farming programs as a part of the war effort, and a general improvement in business practices by students in planning and conducting their farming activities.

Increased use of credit among young farmers has created a demand for intensive study of this important phase of production and placement. In response to this need, instruction on financing is beginning to take its place in the course of study along with units on production practices.

Objectives of the Study

The main purpose of the study is to assemble certain information that would be useful in the further development of a sound program of instruction on credit problems of students. Stated in more detail the objectives are to determine:

1. The extent to which credit is used by students of agriculture.
2. The kinds of farming enterprises and projects most commonly financed thru the use of credit.
3. The nature of problems involved in teaching and supervising students in the use of credit.
4. Some educational values derived by students from the use of credit.

Procedure

By means of survey forms and interviews, information was collected from 16 departments of vocational agriculture on credit used by students during the school years 1941-42 and 1942-43. Two criteria were used in selecting the schools for the study, namely: Was some credit used by students during the period covered by the study? Will the instructor supply the necessary information? The data were summarized under headings appropriate to the objectives of the study.

Findings

The following are some of the more significant findings:

I. The extent to which students used credit:

1. Total credit used by all departments during the two-year period	$ 40,812.00
2. Largest amount used by a department	8,220.00
3. Smallest amount used by a department	220.00
4. Largest amount used by any one student during four-year period ending 1943	2,550.00
5. Average percentage of students using credit (all departments)	33

II. Sources of credit—1942 & 1943:

	Amount	*Percentage of Total*
1. Banks	$18,665	45.7
1. P.C.A.	9,806	24.0
3. F.S.A.	3,700	9.0
4. Family	3,515	8.6
5. Stores	1,167	2.8
6. Other	719	1.7
7. (Source not given)	3,240	7.9
Total	$40,812	

III. Credit used on group enterprises and individual farming programs:

	Total	*1942*	*1943*
1. Group enterprises	$12,715	$ 5,650	$ 7,065
2. Farming programs	21,338	10,550	10,788
3. Use not indicated	6,759	.....	.....
Totals	$40,812	$16,200	$17,853

IV. Kind and number of group enterprises financed thru F.F.A. chapters in 11 schools:

Kind of Enterprise or project:	*Number*
1. Garden	5
2. Chick brooding	4
3. F.F.A. Farm	1
4. Machinery co-operative	1
5. Dairy bull	1
6. Small grains	1
7. Feed co-operative	1
8. Pickup truck	1
9. Hogs	1

V. Activities on financing conducted thru the F.F.A. chapter programs:

Activity:	*No. of Schools*
1. Maintaining and using chapter loan fund	2
2. Using special committee to assist students in financing farming programs	9
3. Discussion of financing and credit at chapter meetings	9

Conclusions

1. The use of credit in financing farming programs is one of the recent major developments in the farm practice and placement phase of vocational agriculture.
2. Problems of financing have created new demands for accurate budgets, plans and records on the part of students.
3. Practically every phase of farming programs, including labor income, has been improved by the use of credit.
4. Credit is rather generally used as an aid to establishment in farming. An average of $1,290 per student was used over a four-year period by individual students, as reported from 11 schools.
5. Students are using regular lending agencies that finance adult farmers. More than 45 percent of the funds were obtained from local banks and only 2.8 per-

VI. The effect of credit on the quality and scope of farm practice programs and placement:

Students using credit to:	*No. of Students*
1. Increase size of farming programs	124
2. Improve general farm practices	90
3. Increase total labor income	116
4. Become established in farming	65

VII. Teaching and supervising the use of credit:

	No. of Schools
1. Teacher approves first year students for loans	12
2. Uses class time for directing students in making applications for loans	11
3. Class time devoted to teaching credit:	
	Average No. of Periods
a. First year	7
b. Second year	7
c. Third year	4
d. Fourth year	3

VIII. Criteria used as a basis for approving loans:

Criteria	*No. of Schools*
1. Interest and support of parents	8
2. Home influence and facilities	7
3. Type of enterprise selected	7
4. Interest of student	7
5. Initiative of student	5
6. Funds available and how obtained	5
7. Soundness of plan for repayment	5
8. Dependability and honesty of student	4
9. Actual need for financial aid	3
10. Evaluation of proposal by F.F.A. loan committee	2

IX. Major problems in teaching and supervising the use of credit:

Problem	*No. of Schools*
1. "Selling" parents on the use of credit	6
2. Getting students to "go on their own" financially	5
3. Developing students' appreciation of the values of sound financing	3
4. Getting students to undertake enterprises of adequate scope for an economic unit	3
5. Getting loans made on time	1
6. Preventing excessive borrowing	1

X. Repayment of loans:

	No. of Schools
1. All students repaid loans on time	13
2. One student delinquent in payments	3

cent of the credit was obtained thru stores.

6. Credit facilities have enabled many students to obtain some experience in financing and production practices thru participation in group projects. Nine schools used credit to finance 16 group projects. Four schools reported that 100 percent of the students participated in the projects.

7. There is need for instruction on the use of credit for adults, especially the parents of students. Obtaining the support of parents and getting students to "go on their own" were the main problems encountered by teachers in financing farming programs.

8. An increasing number of students are completing the high-school course in vocational agriculture with extensive farming programs on which large amounts of credit are used. This trend has intensified the need for a continuous follow-up program of instruction for these young farmers and ranchers.

Suggestions for Further Study

1. The credit needs of students for becoming established in selected types of farming and ranching in Arizona.

2. Characteristics of students and farming programs that contribute to satisfactory repayment of loans. (Case histories of students using credit.)

3. The value of co-operative credit groups and chapter loan funds as devices for teaching the principles and practices of financing farming programs.

4. The nature of training and experience on financial problems that should be available to students at various stages in the program for training and placement in farming.

5. Organized teaching units and content on credit problems for use of teachers of agriculture.

6. Case studies of the success of students using adequate credit as compared with students of similar ability and facilities working with inadequate financial support.

Ships that pass in the night and speak each other in passing;
Only a signal shown, and a distant voice in the darkness.
So on the ocean of life, we pass and speak one another;
Only a look and a voice, then darkness again and silence.

—Longfellow

All that we see or seem
Is a dream within a dream.—Poe

Book Review

A. P. Davidson

DAIRY Farming in the South, by Thomas, Reaves and Pegram, pp. 374, illustrated, list price $2.00, published by The Interstate, Danville, Illinois. Seventeen chapters, each dealing with a specific area of dairy farming, are made more teachable by including questions and problems, suggested activities, and a list of references pertaining to the area treated. *Dairy Farming in the South* was written primarily for pupils enrolled in vocational agriculture. Much of the material included in this book deals specifically with the jobs and problems that are peculiar to dairy farming in the South. No attempt has been made to set up practices or programs applicable to specific farms or to the region as a whole. Factual material has been presented, analyzed and interpreted, in such a manner as to give individual farmers a basis for developing sound programs and practices on their individual farms, regardless of the section of the South in which they are located. The book will be helpful to Future Farmers and others who will study it and apply the sound principles set forth in the text.

FPWT Teachers

(Continued from page 7)

brought together for more or less systematic training conferences. Such an outline has already been devised for teachers in Michigan by Dr. H. M. Byram, teacher-trainer in that state.

2. Bring teachers of vocational agriculture together for short intensive training institutes and train them to conduct training programs in their own local districts. In California approximately 60 percent of such teachers have attended Job Instruction Training Institutes, conducted by the teacher-trainers, and have qualified as Job Instruction trainers. It is recommended to these teachers who supervise local groups of special instructors that they enroll these special teachers in regular 10 hour J.I.T. training programs and train them thru this medium to do a better job of instructing.

3. Provide teaching materials—course outlines, subject matter circulars and visual aids.

While teachers of vocational agriculture generally have not had much experience in training teachers, they have had the necessary professional training to do this, especially if given assistance by teacher-trainers.

It might also be desirable for teacher-trainers to develop a handbook or manual for use by these special teachers which would give definite suggestions, in simple, everyday terms on how to plan for and teach these adult groups. This might be an effective supplement to the training given by the local supervisor and make his job that much easier.

An interchange of these teaching aids among teacher-trainers might prove to be a stimulant to the rapid improvement of all training programs.

WATSON ARMSTRONG

Farmer Classes

W. H. MARTIN

A Decade of Farmer Classes

E. J. STEVENS, Teacher,
Manson, Iowa

E. J. Stevens

EVERY year when night-school time rolls around and the clock's hands point toward 7:30 some Wednesday night early in December, I have a case of nervous indigestion. "Will they come?" is the question. All of my fears seem senseless an hour later, because they do come as in past years, with the same friendly good-nature that puts me at ease. I was told in college to develop the ability to put them at ease, and here I find that they are the ones that make me feel at home. I realize now that this is *their* night school, they are the instructors and the learners, while I merely act as sort of a bandmaster.

Such has been our night school for farmers at Manson for over a decade. The night school, first organized in 1931, was further developed and refined from 1935 thru 1938. The teachers of agriculture then gave the night school to the farmers of the community. It belongs to them, and as long as it remains in their hands it will prosper. Nineteen of the original members of that first class of 13 years ago are still attending regularly. Many others have joined; some have stayed, and a few have left. We boast no record attendance nor any unusual achievements. We have had meetings of 400 and meetings of seven. These numbers are unimportant except to fill in blanks in state reports. The important thing is the fact that we continue to see new faces in our meetings, and, in recent years, they are the faces of younger farmers, many of them in the lower-income brackets, who are coming to learn from those who are older and more experienced and who have successfully carried out some of the improved practices learned at the meetings.

Five men make up the advisory council. These are elected by the group. They help the instructor set up the objectives for the year and make other important decisions. These men are almost entirely responsible for the enrollment and sometimes compete for membership records.

Our meeting consists of three parts:

I. Discussion period, 7:30—9:15
   The instructor talks for about 30 minutes to present the topic. Discussion follows and a summary is made by the instructor and the group
II. Moving Pictures
   One educational
   One entertaining
III. Coffee and rolls
   Served by the men themselves

Some of the activities which have proven of interest and of value to the group are:

1. Iowa corn-yield contests.
2. Soybean-yield contests.
3. Fertilizer test plots.
4. Oats demonstration plots, showing the new resistant varieties developed at the experiment station.
5. Development of seed treating, with local elevators and the state plant pathology department co-operating.
6. Seed testing, with the local F.F.A. co-operating.
7. Soil testing, with the local F.F.A. co-operating.
8. Poultry disease clinic, with the USDA co-operating.

This year each member indicated, on a prepared form, three or four improved practices selected from those studied the last three years, that he wishes to establish on his farm with the help of the instructor. Most of these practices will help him produce more efficiently, thereby increasing his earnings and his contribution to the war effort. Some of the selected practices are:

1. Feeding cows according to production.
2. Year-round culling of hens.
3. Proper housing of hens.
4. Establishing self-feeding of swine.
5. Improving alfalfa hay and pasture.
6. Elimination of certain noxious weeds.
7. Painting buildings and farm machinery.
8. Liming and fertilizing fields.
9. Manage orchards to produce more quality fruit.

After nine years of work with adults in night-school groups, I have set down some rules which I try to follow. Since they are of a personal nature, I state them with some apprehension. Every instructor must have his own code. You may not like some of these rules but here they are for what they are worth.

1. Neglect any one of the three parts of the meeting and attendance will drop.
2. Have all of the theory mastered and the lesson well planned, but rely chiefly on members for discussion material.
3. Give advice only when asked for it, and seek the solution of problems among other members rather than rely on theory alone.
4. Remember "To win an argument means to lose a friend." It might be added that, losing a friend thus, one also loses a chance to be of service to him.
5. Serve all farmers, whether night-school members or not, but mind your own business.
6. Don't be a hired man, yet don't mind a little manure on your shoes.
7. Be tolerant; remember "To understand all is to forgive all." Don't expect too much; be patient.
8. Be honest and straightforward; avoid pretense.

The diligent farmer plants trees, from which he himself will never see fruit.—Cicero.

Take the School to the Farmer

PARKER B. HAGG, Teacher,
Arcadia, Wisconsin

Parker B. Hagg

WHEN I moved to this department in June, 1938, I made a survey of the possibilities for conducting adult meetings from which the entire school patronage area might receive benefits. The survey revealed that in this area of approximately 300 square miles, there were 26 community centers for meeting places in addition to the public high school. These centers are enclosed within natural boundaries of hills and valleys for which this part of Wisconsin is famous.

Only six of the centers had ever been used for evening meetings by the teacher of agriculture, largely because the high-school area did not then extend out so far as it does today.

Where to Hold Meetings

I soon learned that this or that community would be a good place to hold meetings and that certain centers, such as North Creek or Pine Creek, were good places to stay away from because one would not receive the necessary co-operation. To me this was a peculiar circumstance, but upon further investigation I learned that the Polish people who make up about 50 percent of the population of this school area were more or less of the follow-the-leader type. I was skeptical about being able to be their leader. Other nationalities were Swiss, Scandinavian, German, and Irish. I was determined to get into the inner circle of each of these nationalities. I had always found Germans and Scandinavians very receptive to any phase of education.

Gain the Confidence of These People

The centers mentioned are Catholic. The priests live in the Parish residences near their churches. I visited each of these priests and laid my cards on the table. I explained who I was and what my mission was. I received a cordial welcome in each case and was given assurance that I would have their full co-operation in securing a meeting place and in securing enrollments. The priest announced the possibility of the meetings, the value to be derived from them, and the advantages to the community.

The smallest enrollment in any of these centers was 40 adults. The people were just as receptive and ready to adopt new and improved practices as any other people after I gained their confidence. These same people made up the bulk of

the enrollment in farm machinery-repair classes conducted by implement dealers in town during the past two winters under the OSYA program.

In rural school centers I always contact the members of the board of education as well as the local teacher to gain permission to use the building, and I always find them very co-operative.

Hold Meetings in Rural Communities

All my adult meetings have been held in rural centers. Eleven centers out of 26 have been reached. In addition, OSYA classes in electricity, auto mechanics, metalwork, farm machinery repair, and several classes for young farmers have been held.

I make it a point to offer courses in each center for two winters and then move to another center. My plan calls for holding meetings in every center in the entire community, thereby permitting vocational agriculture to spread its service equally to all areas.

Holding Attendance

The problem of holding attendance is almost entirely the responsibility of the instructor. If he offers what the farmers want and if he offers something new and constructive at each meeting without letting things drag at any time, attendance will not drop.

A demonstration is usually planned for the first meeting, since that is always our organization meeting. For this demonstration I usually take a half dozen laying hens along to use in a culling demonstration. This works into fall-feeding and parasite control. The need for the latter can also be shown with a few bottled specimens of parasites which I carry with me on such occasions. This appeals effectively in a community where considerable poultry is raised.

Enrollments will drop off if the instructor isn't forever on his toes. Charts, blackboards, mimeographed material, and experiences of farmers in attendance are used as much as possible. When farmers' experiences are made a part of the meetings, attendance will not drop. Enrollments have been on the increase for every course held.

Community Service

Community service is a major part of my contribution to the farmers of this community. Farmers are just as much interested in you as you are in them. Follow-up evening schools with service to farmers in splicing hay rope, teaching them to castrate, assisting them with their disease and parasite problems, or show them how to grow a healthy crop of apples, and they won't miss the evening schools.

Pointers for Farmer Classes

R. C. CALLAWAY, Teacher,
Bolivar, Missouri

WITH demands being made on the American farmer for more production than ever before, adult education has taken on a new meaning. Even with the shortage of labor, gasoline, and machinery, the adult farmer is still trying to increase production with new methods and better practices. It is the responsibility of the teachers of agriculture to supply this service in his patronage area.

Starting the Course

Many teachers hesitate to start a course for fear that they won't secure the desired enrollment and interest. I have found my all-day students the best medium for publicity. As a rule, I discuss the adult setup with my all-day boys and tell them if they think their parents and neighbors would like a course of that type to let me know. They also contact the rural school board member where the meeting is to be held and get his co-operation in the use of lights, heat, building-custodian, and other details incidental to the course operation. In some communities this procedure might not work, but my F.F.A. boys always include the item in their program of work, assist in the conduct of evening schools. While they are doing this, I give publicity to the opening date of the course thru the local press, class announcements, postal cards to all patrons of the district where the class will be held, and thru the local teacher in the district meeting place.

If the class is a request class or a follow-up class where the meetings have been held in the past, the above procedure is shortened. I merely find the starting date the group desires, notify all the former students, welcome any prospective new ones, and we are ready to start.

Keeping the Class Going

On the first meeting night, we elect a secretary to keep the roll. The more responsibility members of the class have, the more interest they will take.

One sure way to kill the interest is for the teacher to go out and announce the first night that 10 lessons will be held on topics of his selection. Let the group decide what is to be discussed. Teach them what they want, not what you think they need. Let them choose the meeting night that suits them best. Most often my groups like to meet twice a week. You may have to miss your favorite radio program, lodge, or service club to meet on those nights, but their interest comes first.

After the course is set up and meeting nights and meeting hours set, give the first-night group something worth while. Don't let them leave without gaining some good out of that first meeting. If they go home disappointed, they will likely say "I guess the second night will be the same so I'll just stay home." I have found a "Farm Outlook" discussion arouses interest in the first-night crowd.

To keep interest and attendance growing thru all the course, teachers use various devices. Adults are like children in being interested in visual aids. Use good film strips and sound films when available. Take real articles that are under discussion. No better poultry culling class could be held than one in a member's poultry house. A finer setup for a dairy judging class couldn't be found than in the herd of a class member. This might require classes at varying hours, some at night and others in daytime. Offering certificates for attendance at the end of the course stimulates interest. Printed or mimeographed material, handed out at the end of the class, on important facts is helpful.

Continuing Service

The teacher should visit the adult member's home the same as the all-day student. Many problems come up there and may be solved that may not be mentioned during class time. It also gives the timid or quiet men a chance to talk to the teacher when otherwise they might not take their problems to him. The teacher is given an excellent chance to provide personal help when needed. It is impossible for a teacher to answer every call for personal help, but a certain amount of help is necessary to teach such skills as pruning, culling, controlling worms in sheep, caponizing, and treating seed. Remember that a farmer shown a personal interest by the teacher becomes his friend and a supporter of the school and of vocational agriculture.

Explanation

The pickup truck in the adjoining cut and the brooder house on page 18 are projects completed in the class for farmers conducted by E. J. Wilms of Minburn, Iowa, which was reported in the June issue. They illustrate thousands of projects and courses conducted by hundreds of our teachers in all the states.

From coach to pickup truck

Farm Mechanics

R. W. CLINE

Effective Methods of Instruction and Management for Farm Machinery Classes

ARTHUR M. AHALT, Teacher Education, University of Maryland

THE course in the "Repair, Operation and Construction of Farm Machinery and Equipment" of the Food Production War Training Program has met with a strong demand in Maryland. The special instructors hired for the program are in most cases mechanics of proven ability with little or no previous teaching experience. Almost uniformly these men have had little trouble with the production phase of the program, but have made requests for instructional helps from time to time. They have also expressed interest in the management and the organization of the farm shops conducted by others. This study therefore is undertaken with the definite purpose of surveying, assembling and presenting in usable form the expressions of representative instructors of farm-machinery repair and reconditioning in the several areas of the State.

The study is made: (1) to determine the best plan for establishing courses; (2) to find the most effective practices in class management and instruction; (3) to shorten the period needed for developing these practices; (4) to devise ways and means of securing and maintaining high standards; and (5) to promote features of safety in the shops.

The study was conducted with the cooperation of the regional co-ordinators and supervisors of the program.

Establishing Centers

In establishing centers we found three distinct and successful methods in use.

First, and most common, is a preliminary survey and meeting of interested farmers. Key farmers and other interested individuals are interviewed in a prospective area and the program explained to them. If their reactions are favorable a general meeting of farmers is called. They discuss the possibilities and decide whether or not to make application for a course.

A second method is for the co-ordinator to decide upon centers in conference with school officials and agricultural leaders. Official application is then made for courses. The program is publicized by posters and other means. Several farmers are asked to bring in machinery for repair at the first meeting in a center. At this meeting the program is explained to the farmers and repair is begun on the machines at hand. As the course progresses, all farmers are urged to bring in their machines in need of repair.

A third method is similar to the first except that the demand comes automatically from some communities. In these cases a meeting of the farmers is called and the program explained to them. They then make their final decision as to whether or not application should be made for a course.

Selecting Instructors

There are two major qualifications of a successful instructor. The first, essential for the success of a course, is his ability to get along with people and get them to work. The second is his mechanical ability. This training or ability is necessary to enable the instructor to gain the respect of the farmers and to give them aid in the more complex repair and construction problems. A local man, approved by the prospective trainees, is generally chosen as instructor. In a few situations an instructor must be secured from outside the community.

Individual Instruction

Most of the instruction taking place in the shops is on the individual basis. Instructors who keep the fact that *they are primarily directors of effort* uppermost in mind do a good job. They need to realize they must *allow the trainee to do his own work*. While the instructor could generally do a better job and do it more quickly, the motto *learning by doing* needs to be put into practice for maximum teaching.

Other important practices for instructors to follow are: (1) constantly circulate thru the shop with a watchful eye for trainee difficulties; (2) spend a minimum amount of time with each trainee, thereby spreading his knowledge as far as possible; (3) go thru a job with a trainee step by step and make sure he understands the job before leaving him; (4) check work for mistakes and imperfections; and (5) reduce the number of idle trainees by suggesting small jobs to them, asking their aid on a particular job or by helping them solve a problem that has them stopped temporarily.

Group Instruction

Very little group instruction is being carried on in the shops. The co-ordinators are enthusastic over the possibilities of this type of instruction and say it will add much to the educational phase of the program.

Group instruction should take place in a natural informal manner with the instructor calling a small group together in the section of the shop where a good example for teaching presents itself. He needs to exercise judgement in deciding who is best qualified to give each demonstration. Such a demonstration might be given by a talented trainee. The suggested length is from five to 20 minutes depending on the nature of the job and the interest shown.

Proper methods of heating and bending iron in forge work, tempering of metals, instructions on the use of tools, ironing a singletree, welding a link, cutting a thread, adjusting a carburetor, aligning a mower knife, filing a saw, and discussing breakdowns caused by improper care of equipment are typical examples where demonstrations could be given with good results. Any job commonly performed by farmers can be included in this list.

Developing Shop Leadership

Most instructors are too busy to do their best job. A remedy for this situation, already taking place in a few shops, is to gradually train talented individuals in the class to do certain jobs to the degree of a novice expert. Interested and talented high-school seniors often serve well in this capacity. These individuals can be called upon to help other trainees as the need develops. In a sense they become unofficial helpers. Their aid can do much to relieve the overload on the hired instructor and appreciably extend the end product of training for a given center. If an instructor is forced to leave a center, one of these men might be chosen to take his place. In cases of illness or enforced absence of the regular instructor, they can take charge of the class. Welding, forge work, tempering of metals, band saw operation, sign making, tool sharpening, care of supplies and using a spray paint gun are typical of the jobs adapted to special training.

Preventing Machinery Breakdowns Thru Instruction

Failure to grease machines properly or at all, failure to keep bolts tightened, failure to make minor repairs promptly and abuse of machinery are the most common causes of breakdowns. A great service can be rendered to farmers by impressing them with the importance of guarding against these causes and thereby eliminating many breakdowns. To do this the following chart should be prepared and exhibited in the shop.

Common Causes of Machinery Breakdowns

1. Failure to grease properly or at all.
2. Failure to tighten loose bolts.
3. Failure to make minor repairs promptly.
4. Abuse of machinery.

What Caused Your Breakdown?

Instructors can increase the effectiveness of this device by discovering and recording the cause of each breakdown repaired in the shop. Near the end of the course this record should be called to the attention of the farmers and used as a basis for a brief general discussion of ways to avoid breakdowns. If possible, each trainee should be given a copy of the record.

Shop Organization

A well organized shop is a requisite for good teaching. Its lack causes much waste of time and motion. Departmentalization

is the most effective means of securing organization. There should be a definite place for all tools. Space should be efficiently used. Power tools should be placed where they can be used without interfering with other workers. Arrangement of the entire shop should be systematic. Adhering to those practices in the repair shop will lend itself to the formation of good habits by trainees in their home farm shops.

The wall silhouette is the best means of storing hand tools as it places them in plain sight of trainees and enables the instructor to check them quickly with little effort at the close of the session. Instructors using this method say it is very effective and efficient. The display thus obtained seems to encourage pride in the trainees and only a few minor articles have been lost, thereby minimizing the objection that tools thus stored are easily stolen. Another objection to this method is the time consumed in painting the silhouettes. This can be overcome by drawing silhouette outlines with a hard crayon pencil or by cutting them from colored cardboard and tacking on the silhouette board.

Power equipment and forges are most efficiently used when placed permanently near the outer walls of the shop away from the hand tools. Adequate space must be provided for their operation. In a few of the smaller shops it may be advantageous to fasten power tools on two by four planks and move them about as the occasion demands.

The placing of all equipment near the outer walls of the shop makes for the greatest economy of space. This leaves the open center for large repair and construction jobs.

Supplies of bolts, nails, screws, etc., are most efficiently handled when kept in an open-front cabinet with pigeonholes labeled for the various sizes. This cabinet should be against the wall to conserve floor space. A small room in the corner of the shop is excellent for storing supplies and housing the bolt, screw and nail cabinet.

A supply of scrap iron should be kept on hand at all times. The most satisfactory way to store it is to stand long pieces against a vacant wall space, keeping the different kinds in distinct stacks. Short pieces should be stored in labeled containers.

Most shops do not have adequate space to handle farm machinery at the peak of the program. To facilitate an even flow into the shop the instructor should contact each trainee early in the course and get a list of the larger pieces of machinery he wishes to work on and the most suitable time for him to do the work. This information can expedite an even flow of machinery thru the shop by enabling the instructor to set up a schedule. Naturally this schedule should not be too rigid.

Safety Precautions

Safety cannot be overemphasized even tho few accidents have occured. The following are precautions to observe: (1) have guards on circular saws, joiners, etc.; (2) provide goggles for use with the grinder and welder and see that they are used; (3) prevent overcrowding around the forge and power machinery; (4) never use a small piece of wood on a joiner or circular saw; (5) operate power machines only when needed; (6) give full instructions to trainees before allowing them to operate the welder, forge, or any power machines; (7) keep knives and sharp pointed equipment where workers and passers-by will not step on them or run into them; (8) look out for people near by when operating any dangerous tool or equipment; (9) avoid smoking around inflammable materials; (10) place signs in conspicuous places warning of danger; (11) drill small pieces of metal only when holding with a clamp or pliers; (12) dispose of oily rags in metal containers; (13) keep high-speed power machines properly lubricated; (14) keep fire extinguishing equipment or materials readily available; and (15) have a first aid kit handy for treating minor injuries.

Keeping Records

Records of attendance, supplies on hand or needed, and repair and construction jobs completed are necessary. They must be meshed into the regular shop routine to assure accuracy and ease in keeping them. A system whereby the instructor checks all repair or construction jobs before they leave the shop will aid in obtaining a complete record of the work done. *Promptness in turning in reports is essential.*

Maintaining High Standards

Highest standards are maintained when an instructor is on his toes helping and encouraging trainees and checking all work for perfection. Satisfaction with the shop in the community depends upon completed work holding up in operation on the farm. A check on this farm operation can be made by keeping in close contact with trainees who have repaired machines in the shop. Phone calls, casual questioning at opportune moments and personal visits to the farms are means that can be used in checking.

Machines should be brought into the shop for a complete checkup in preference to bringing in parts for repair. The former gives an opportunity to catch parts badly worn and in need of replacement and in many cases shows up needed repair unnoticed by the farmers at home.

All machinery and equipment repaired or constructed should be painted before it leaves the shop. Paint not only preserves but adds so much to appearance that more care will generally be taken of the equipment after it reaches the farm.

Charts and Signs

Charts and signs are used profusely in a few shops, none in some. Co-ordinators encourage their use. Progressive instructors find them valuable in teaching a lesson. Specific types of charts have been referred to in several sections of this paper. Charts used may be of the type already prepared by commercial concerns or may be made up for special purposes or needs in a given center.

The following are a few suggestions for their use: (1) commercial charts to explain the operation of a machine or part of a machine; (2) general charts on safety; (3) special signs over power machines, etc., giving warnings of danger; (4) simple drawings of small construction work with a suggestion to see the instructor for information on how to make them; (5) signs telling of detailed plans available for specific jobs; (6) general signs suggesting repairs that might be needed on specific equipment*; (7) a sign over a repaired machine or piece of equipment, such as a brooder stove reconditioned in a shop, suggesting other class members may wish to repair theirs; (8) signs over work done in the shop giving the name of the person who did the work; (9) signs of articles for sale or wanted; and (10) list of important parts to be checked on individual machines.

Charts and signs should be neat but need not be artistic in design. Anybody can make them if they take the time. In some cases F.F.A. members may volunteer to make them and thus relieve the instructors. A well placed blackboard can be beneficially used to bring short messages or to offer timely suggestions. It is a valuable asset in any shop.

Improving Instruction

Three general methods are used to improve instruction.

First, is individual conferences between instructors and co-ordinators. As points needing improvement are noted, a discussion is held and a plan of approach decided upon. Instructors in general show much willingness to follow suggestions. This method probably has the greatest possibilities for improvement if handled judiciously.

Second, is the preparation of a list of instructional responsibilities. For best results they are discussed in detail when given to the individual instructors.

Third, is group meetings of the instructors. These give instructors a chance to air their difficulties, see the difficulties of others and discuss them for practical solutions. They provide an opportunity whereby a demonstration or short talk by another school official or outsider can be presented to give the instructors practical information or a new point of view. Finally, a spirit of fellowship, feeling for the profession of teaching and friendly rivalry naturally develops.

A combination of all three types seems most desirable for best results and most rapid improvement in teaching.

Conclusion

Farmers attending farm machinery-repair schools receive two major benefits.

First, they gain training and experience, and develop ingenuity and confidence in their ability as repairmen. This benefit should enable them to repair much more of their machinery on the farm than heretofore. With the emphasis on production little time has been available to direct attention to effective teaching practices. To improve instruction and thereby increase learning takes patience and forethought on the part of those concerned. Some instructors are natural teachers, others need to practice diligently to put their points across. All should adopt the philosophy that *if the trainee has not learned the instructor has not taught.*

Second, the actual repair work done keeps the farmers' machinery in operation. Critical machinery worth thousands of dollars has been repaired. This looms large and is extremely important. Instructors can increase this benefit as the program continues by further improving their mechanical ability and shop equipment.

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* See mimeographed publication, "Vocational Victory Training Manual of Instruction for Trouble-Shooting Farm Equipment," State Department of Education, Baltimore, Maryland.

Studies and Investigations

E. B. KNIGHT

How Graduates Become Established

G. F. EKSTROM, Teacher Education, University of Minnesota[1]

G. F. Ekstrom

A STUDY of how graduates from Minnesota departments of vocational agriculture become established in farming was initiated just before the United States became directly involved in the war. After some hesitation it was decided to proceed with the study, even tho its scope would be limited because of the absence from farms of Service inductees, in order that the results from it might be available to workers in agricultural education in the postwar period. It was thought that the data would be helpful to teachers in directing the development of farming programs with high-school pupils, and with members of part-time classes pointed toward establishment in farming.

The procedure involved the obtaining of data from high-school graduates in selected departments which had operated a minimum of 10 years. The teachers of agriculture in these schools cooperated by (a) making up a list of the graduates, (b) tabulating the number who were farming or in occupations related to farming, (c) supervising the collection of data from the foregoing group, and (d) arranging for case studies with a limited number of individuals. In order to introduce different environmental factors, the 21 departments in the study were selected from schools of varying sizes and in different types of farming areas in the state. No attempt was made to draw comparisons between the graduates of the different departments since this was not germane to the project.

A total of 3,300 graduates within the years, 1927–1941 inclusive, were reported of whom 624 or 19 percent were farming for themselves as owner-operators, renters, or full partners. An additional 949 persons, or 29 percent, were on farms but not fully established.

The co-operating teachers were asked to obtain data from the graduates who were fully established as defined for the study. Two hundred and forty-nine returns were obtained of which 203 were ascertained as applying to persons fully established and were used in making tabulations. It was assumed that the 203 returns which were used came from the group of 624 established persons or from 32.5 percent of those farming for themselves.

Summary of Data

1. The median age of the 203 graduates was 24.2 years with a range of 18 to 42 years. Only 42 reported formal education beyond high school. Of the 87 who were married, 71 were living away from parental homes while 107 of the unmarried persons were still living with their parents. One hundred and sixty-five of the graduates had a total of 350 brothers, 150 of whom were farming or in occupations related to farming.

2. One hundred and ninety-one or 95 percent of the fathers were farming or had farmed with five of the remaining 12 listed in occupations related to farming.

3. At the time of leaving high school, 126 persons possessed some livestock, 21 possessed farm machines, 65 savings, and 67 insurance.

4. One hundred and fifty-eight or 76.8 percent of the graduates lived on farms continuously for an average of 6.7 years since leaving high school. Forty-three noncontinuous farm occupants spent an average of 2.7 years in non-farming occupations.

5. The rank of first choices as to why the young men chose to farm were, (a) know farming better than anything else, (b) independence of the farmer, (c) opportunity to work with livestock and growing crops, (d) opportunity to take over home farm, and (e) interest stimulated thru vocational agriculture.

6. Before the 203 graduates reached their present status as owners, part-owners, renters, or partners, 164 assisted their parents an average of 4.5 years and 24 worked as hired hands for an average of two years.

7. Ninty-seven persons had rented or were renting a total of 162 farms for an average of 2.8 years. Thirty-one persons rented two or more farms, 18 at least three farms, four had each rented four farms, and one person was operating a fifth farm.

Establishment

8. Only nine persons reported having inherited any money and 12 any property.

9. Assistance in becoming established was reported by 75 percent of the owner-renter group[2] and 57 percent of the partners. The most common assistance provided for the use of equipment and for gifts of livestock including poultry.

10. Eighty percent of the owner-renters and 34 percent of the partners had used or were using credit, with local banks as the principal source. In the main, the credit obtained by both groups was used for the purchase of livestock and equipment.

11. Forty-two percent reported the possession of earnings at the time of entrance into farming. The major source of the earnings came from farm labor, followed by income from crops and livestock projects.

12. According to the graduates, assistance from parents and relatives was the most important factor in their becoming established in farming. Their experience in farming was listed as the next most important factor.

13. The major problem in becoming established was that of building up savings and other personal assets. The securing of land was a problem with a larger percentage of the owner-renters than of the partners.

Farming Programs

14. Data on 103 of the 104 owner-renters showed that 53 were listed as owners, 32 as renters, and 18 as part-owners. In 49 cases the farms of the owner-renters had previously been operated by the parents and in 43 cases also owned by the parents or other persons within the families.

15. The relative numbers of farms owned and/or previously operated by parents or other relatives of the partners were higher than for the owner-renters.

16. General farming was the most frequent type of farming in which the graduates were engaged. The owner-renters operated a higher proportion of grain farms than did the partners.

17. Forty-four of the owner-renters and a like number of partners reported that some of the livestock which they owned was the result of projects carried while in high school. Dairy cattle was the basis for more continuation projects than others, followed by hogs and sheep.

18. There was no appreciable difference between the owner-renters and the partners as to the percentages of farmers using tractors for farm work and motors for operating farmstead equipment. The partners had more frequent access to conveniences including electricity, furnaces, running water, and indoor toilets.

19. Eighty-three percent of the owner-renters and 67 percent of the partners expect to farm indefinitely. More of the former group were looking forward to the purchase of farms or additional land than was the case with the partners. Other steps in becoming further established mentioned most frequently by both groups were the expansion of the dairy, livestock, and poultry enterprises and the purchase of additional land.

20. Relatively more of the owner-renters than the partners were members of certain co-operative groups including creameries, shipping associations, oil companies, and farmers' elevator associations.

21. In evaluating the benefits received from their instruction in vocational agriculture the graduates ranked leading items in the following order: (a) learned improved methods of farm management, (b) learned to appreciate farming as a career, (c) developed abilities to co-operate with others, (d) acquired operative

[1]This study was conducted by the division of Agricultural Education and was assisted by the Bureau of Educational Research.

[2]The owner-renter group as used herewith refers to owner-operators, renters, and part-owners.

skills, and (e) acquired interests for improved living standards.

Deductions

Progressive Establishment

Establishment in farming is progressive ordinarily. This may mean advancement thru specific stages leading toward the rental and eventual ownership of land. It should also mean the improvement and possible expansion of any farming status in which the individual may find himself.

The implications resulting from the objective of progressive establishment are rather clearly defined. Guidance must be a continuous process. Recognition as to how young men get started and then progress in farming is essential to the development of a practical program of classroom and home instruction. The cooperation of parents is necessary to the obtaining of proper family relationships with their sons. Some responsibility must be taken to assist former students in becoming placed advantageously.

Personnel of All-Day Classes

It is quite obvious that graduates from high-school departments of vocational agriculture who enter and progress in farming come very largely from farm families. This fact suggests the advisability of discouraging promiscuous registrations by non-farm boys in vocational agriculture, the aim of which is to train for proficiency in farming.

High-School Instruction

The instruction of high-school classes in vocational agriculture should emphasize the managerial aspects of farming supplemented by exploratory experiences, training in skills, and the development of a wholesome philosophy toward farm life. Such an instructional program consists of (a) group work involving matters of common interest to all members of the class and (b) individual instruction.

The individualized work should stem from a long-time program to be revised from time to time, which the boy sets up for his home farm and for his own farming activities, including those things which make for his personal development.

Farming Programs

There is evidence to indicate that the farming programs of students contribute to their becoming established in farming. Some of the earnings derived from the projects carried while in school are available for use upon entrance into farming and some of the livestock possessed when farming comes from foundation stock obtained while in high school. It would seem, however, that further efforts to develop more meaningful farming programs which will facilitate establishment in farming are in order. For most boys this means programs of increased scope and greater variety and a higher percentage of continuation projects.

Partnerships

The importance of stressing the development of partnerships in vocational agriculture is especially significant for two reasons; first, because it is a logical step in the expansion of farming programs for students of vocational agriculture and, second, because it is a step which is common to a large percentage of young men who enter farming. Specifically, partnerships provide (a) opportunities to accumulate livestock, equipment, or cash, and (b) experiences which will be useful subsequently in establishment as a renter or owner-operator.

Farming partnerships with parents ordinarily draw upon the income from one or more enterprises on the farm, a share of the income from one or more enterprises, or a share in the entire business of the farm. To be successful such partnerships require amiable relationships within the family. Teachers should acquaint themselves sufficiently with family situations so as to be in a position to encourage the planning of farming programs which will work to the advantage of both the boy and his parents.

Credit

Altho the establishment of credit did not show up as a major problem in this study, it is nevertheless an important factor in becoming established in farming. Where to obtain credit and the amount which can be used advantageously are questions for which teachers should have information that will assist young farmers in making wise decisions.

The case studies revealed a number of situations where parents were assisting their children without a direct understanding as to the conditions under which the help was being extended. More definite arrangements would help young men anticipate the kind and the amount of compensation to be received for services rendered to their parents, and the degree of their obligations for materials or money provided when starting to farm for themselves.

Aside from the advisory services relating to the obtaining and use of credit, teachers of vocational agriculture might devote more attention to the teaching of thrift. Young men who manage to accumulate a small amount of savings, to accumulate livestock and equipment, who know how to invest wisely, and who have sound programs of insurance, will find it easy to obtain credit and to finance their obligations as they progress in establishment.

Placement

The matter of assisting young men in locating placement opportunities which are suited to their individual situations is difficult. With persons who can take over home farms the problem is somewhat simplified. Yet these persons must decide whether it is to their advantage to operate the family farms, and if so, to work out arrangements satisfactory to them and to their parents.

Teachers of vocational agriculture should consider themselves as liaison persons working with their product on the one hand and with landlords on the other. Aside from providing the best possible training for young men, this means familiarity with placement opportunities and gaining the confidence of persons and agencies who have farms to rent or to sell.

Post-School Instruction

The small percent of graduates included in this study who attended young farmer classes is in part attributed to the failure of many schools to offer this type of instruction. At no stage in the program of training in vocational agriculture is systematic instruction more important than with the group eligible for young farmer classes.

The problems of this group relating to establishment in farming are immediate, to say the least. Individual instruction should be more effective with young men who are expanding their herds, who are interested in making managerial improvements on the home farms, who are seeking placement opportunities, and who are in the process of obtaining credit to enlarge their farming operations. From the standpoint of class instruction, the group is interested in matters pertaining to the establishment of a home and participation in various rural organizations and community activities as well as in problems dealing directly with the operation of farms.

Poor indeed must thou be, if around thee
Thou no ray of light and gay canst throw.—Sewall

His heart was one of those which enamour us,—
Wax to receive, and marble to retain.
—Byron

Recognition Day in Texas

GOVERNOR Coke Stevenson of Texas issued a proclamation setting aside February 25 as Farm and School Victory Day in recognition of the achievements of farms and schools, and in recognition of the manner in which these two groups have co-operated to further the war effort.

Thruout the state many communities held appropriate meetings, and many included in their local programs listening to a 30-minute state-wide radio program broadcast thru the courtesy of Texas Quality Network at 8:30 p.m. on the evening of Farm and School Victory Day.

Participating in the special broadcast were Governor Stevenson, Homer P. Rainey, president of Texas University, and E. J. Kyle, Dean of the School of Agriculture of A. and M. College. All paid special tribute to the work of the vocational agriculture service and to the farm boys in high school studying vocational agriculture. Much of the work of these boys was impressively dramatized, as was that of the 500 farm machinery repair shops under the supervision of the teachers of vocational agriculture in Texas. It was further pointed out that 539 schools with departments of vocational agriculture had provided food processing-training centers in which more than five million containers of food were canned last year.

Preceding the broadcast, pattern stories were sent out to the local communities thru the Governor's office, while the Texas Association of Teachers of Vocational Agriculture provided mats for full-page layouts to all local papers participating. Phone calls, wires, cards and letters after the broadcast indicated that this was the most impressive bit of recognition ever given vocational education in agriculture in Texas.

It is suggested that other states might very well consider the possibility of arranging a state-wide recognition day for agricultural education.

Future Farmers of America

A. W. TENNEY

Alabama Association Has Record Year

C. C. SCARBOROUGH, Assistant State Adviser, Auburn, Alabama

THERE is a war on you know; boys are leaving classes in vocational agriculture for the Army, Navy, Marines and the farm; the same is true of teachers of agriculture; travel is being restricted more and more; lots of "extra war duties" for the teachers and boys left in the departments; etc., etc.

> To Alabama and other State Associations that have expanded their programs this year in spite of many difficulties are due our sincere congratulations.—A.W.T.

What About F.F.A. in 1943–44?

The above might be a brief summary of conversations and conferences of teachers of vocational agriculture, staff members, and other F.F.A. leaders in Alabama in the spring of 1943. Strong opinions varied, but all agreed that a definite policy for the Alabama F.F.A. Association should be decided upon for the war year of 1943–44. So all staff members agreed to discuss the matter with as many teachers and local officers as possible so that a general policy could be formulated for discussion at the summer conferences of teachers and the State F.F.A. Convention.

The result was a definite decision on the part of staff members, teachers of vocational agriculture, and State officers to take a tip from our allied military strategists and *take the offensive in 1943–44!* Since the F.F.A. is a real farm boy organization and the farm boy is in the war long before he leaves for military services at 18, why shouldn't the F.F.A. be active in war as well as in peace? All F.F.A. leaders in Alabama joined heartily in this spirit, getting results during the year beyond their most optimistic hopes.

Record State Membership

The first major result of this objective was reflected in the number of active, paid-up members in Alabama. (Early estimates on this item varied from a gain of 500 to a loss of 1,000 members as compared with 1942–43). When the deadline for dues in the State office came, the total number of members was the highest in the 15-year history of Alabama F.F.A., *exceeding the previous year by more than 1,000 members!* How was this done? *Interest* would probably be the best answer. The decrease in agriculture enrollment was met by increasing the percent of membership in local chapters. Many Alabama chapters have the largest number of active members in their history by having larger percents of boys enrolled, some having as high as 130 percent of the number of boys in agriculture classes.

Another record breaking activity this year was the number of applications for the State Farmer Degree. Ninety chapters filed 185 applications, more than doubling the previous year's record and setting an all-time high in the number of applications. It is interesting to note also that a record number of applications for the American Farmer Degree has also been received. So the State Committee will be able to recommend Alabama's full quota for State and American Farmer Degrees for 1943–44.

Some other "numbers evidence" of enlarged activity is revealed in the participation in the two state-wide contests. More than 1,500 boys wrote and delivered speeches in the Public Speaking Contest, as major emphasis was placed on local participation. One hundred percent of Alabama Chapters entered the "Better Chapter Contest" with the ranking 14 also entered in the national contest.

Other Activities

State Officers have visited more than 100 chapters during the year. Each officer had his own "F.F.A. Area" consisting of about 20 chapters in near-by counties. The main purpose of these visits was to discuss timely State Activities and help in any way possible with problems of local chapters. Conferences with chapter officers featured each visit. Reports on these visits were made by each officer at each Executive Committee Meeting. A special wartime activity in the fall of 1943 was the "Alabama F.F.A. Jeep Campaign." This idea, set up officially with the State War Savings Staff and the U. S. Treasury, resulted in the sale by chapters and members of $1,054,725 (purchase price) in war bonds. Other war activities included the collection of 1,543 tons of scrap iron; 101 tons of rubber; 80 tons of paper; 5 tons of rags. Still other special activities included planting more than 4,000 victory gardens and 456,000 pines. Also the regular farming programs were enlarged to include more food and feed projects as well as farm machinery repair.

ALABAMA'S EFFICIENT EXECUTIVE COMMITTEE

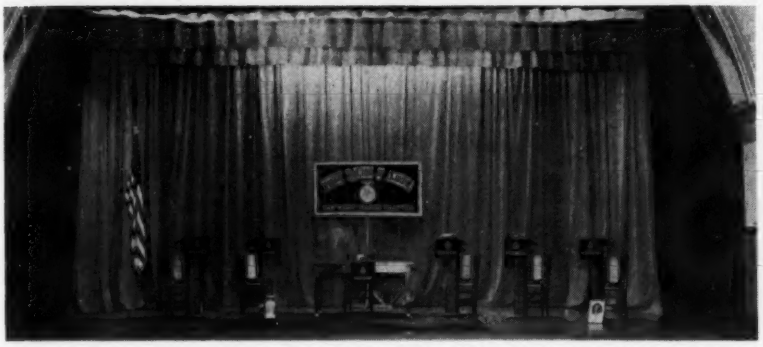
The Alabama boys and their adviser responsible for their excellent record in 1943 are, lef to right: Elson Powell, treasurer; Hansell Grooms, reporter; Thomas Nevin, president; C. C. Scarborough, assistant adviser; Rex Locklar, vice-president; and Paul Wilson, secretary

Alabama Future Farmers look with pride upon their record for 1943–44 and are already planning to make this year bigger and better. They believe that their year's record proves that the F.F.A. is an organization that has an important place in the lives of farm boys in war as well as in peace.

"If you want knowledge, you must toil for it; if food, you must toil for it; and if pleasure, you must toil for it. Toil is the law. Pleasure comes thru toil, and not by self-indulgence and indolence. When one gets to love work, his life is a happy one."—Ruskin

The thing that goes the fartherest,
Towards making life worth while.
That costs the least and does the most,
Is just a pleasant smile.
It's full of worth and goodness too
With genial kindness blent,
It's worth a million dollars—
And doesn't cost a cent.
The heights by great men reached and kept
Were not attained by sudden flight,
But they, while their companies slept,
Were toiling upward in the night.—
Longfellow

WHERE CHAPTER PROCEDURE WINNERS ARE MADE



The Van Wert, Ohio Chapter has an attractive setting for its meetings which is doubtless an aid to their high ranking in the State Chapter Contest and in the Chapter Procedure Contest. The adviser is John H. Leonard

J. H. Leonard

The Editor Suggests

Are you thinking about your chapter parent-and-son banquet for next winter? Have you ever built your program numbers around a theme with cleverly worked out related titles for every participant? Here is a challenge to your originality and cleverness. The editor will be glad to receive a few good exhibits in this area.

NEOSHO, MISSOURI CHAPTER SALVAGES PAPER

The Neosho Chapter salvaged over $300 worth of waste paper. It was sorted and baled in the school shop and the profit is used in a loan fund to members for the purchase of purebred livestock on a 50-50 basis. Kenneth Russell, Adviser

Oklahoma Future Farmers Control Grubs

JACK HARPER, Teacher,
Mooreland, Okla.

MOORELAND is situated in northwest Oklahoma where the raising of cattle and wheat are the major enterprises on farms. For that reason the successful management of beef cattle including the control of parasites is of paramount concern to young and adult farmers in the community.

The Oklahoma Association of Future Farmers sponsored a state-wide contest against the heel fly which lays the eggs that form grubs or ox warbles in the backs of cattle. Mooreland Chapter treated 5,800 head of cattle on 153 farms in their community, using over 700 pounds of dust. The 35 members treated all the cattle in their own herds to get the campaign started. Soon farmers heard of this service offered the Mooreland boys and the Chapter was swamped with requests to treat other herds. The names of farmers wanting their herds treated were compiled and communities divided among different groups of boys. All of the herds in an area were treated the same day to avoid extra driving.

Five cents per head was charged for the rotenone treatment, which was the formula recommended by the BAE of the USDA. The one part of derris (5 percent rotenone) and three parts tripoli earth were mixed in powder form and two ounces of the dust were applied to the backs and rubbed into the grub cysts by the use of stiff brushes.

Farmers in the community appreciated the fact that they were making a two way saving by treating—one, to kill the grubs that were present and which sapped strength from cattle; and two, to cut down the number of heel flies which later irritate cattle during the spring months and prevent rapid gains. Since the heel fly travels only about a mile to lay its eggs, many farmers made it their responsibility to see that their neighbors' cattle were also treated.

The boys learned to handle cattle under all conditions. They found that the quickest and easiest treatment was in using long chutes, altho some animals had to be roped and snubbed.

Many new ideas about building corrals, loading and squeeze chutes, barn construction, and other conveniences which could be used on many of their home farms were obtained. Both dairy and ranch herds were treated enabling the boys to contrast and compare other herds and equipment with those on their own farms.

Besides the service to the community and the war effort and the experience and ideas acquired by the boys, approximately $100.00 was netted to go into the chapter treasury to be used for the purchase of War Bonds.

Grub eradication in Mooreland, Oklahoma

Shall a Teacher of Agriculture Operate a Farm?

C. E. HILL, Teacher,
Albany, Texas

OF THE several ways in which a teacher of vocational agriculture may become established in a community, one in particular has been the object of much discussion among teacher-trainers as well as among teachers. As a teacher who has farmed and taught several years, I wish to relate some experiences which have convinced me that a teacher of vocational agriculture owning and operating a farm in the community in which he teaches can greatly increase his value to the people and to agriculture.

When I began teaching vocational agriculture I was placed in a new department in a town where very few people had any information about vocational agriculture. The farmers, who were beef cattlemen in the main, had one big interest in getting a department in their school. They wanted some calves from their herds to win prizes in leading shows. I was told, when I was elected, that unless some calves fed under my supervision could win in the big shows by the end of the second year after my election, another man would likely replace me.

I believe I did my best to put out some winners those two years, but found that it was impossible to get good calves at prices which my vocational boys could pay. Some of them lost money on their calves which was not encouraging to me or the boys. As a result of these two years of experience, I became aware of two things: First, my expenses had been far too much for the salary I received. Second, my all-day classes had made very little money on projects and were losing interest in the type of feeding we had been doing.

During the summer of my third year in this department I completely changed my teaching plans and also my personal plans for earning a living with very small increase in salary. With expenses becoming greater, I decided to supplement my teaching salary by entering into farming myself.

I soon found myself more closely associated with farmers and ranchers than ever before. They felt that I was not merely a teacher but a farmer like themselves.

In the years that followed, my farming has increased my value to the community in several ways. First, it has made possible a better standard of living for myself and my family. That has done much to keep me happy in my work and keep my mind off jobs where I might get a few dollars more each month. A teacher who is not contented can not do his best work.

Second, my farming has taught me how to meet problems thru experience which might never have been presented to me otherwise. It has been a means of demonstrating some improved practices which later were adopted by other farmers after they were convinced the practices were profitable. Feeding balanced rations to livestock is an example of an improved practice which was difficult to get adopted by many farmers until they saw the results at another's risk. Protein supplements in proper amounts for swine and cattle seemed too expensive until they were proved to be profitable in such a way that farmers easily saw the results.

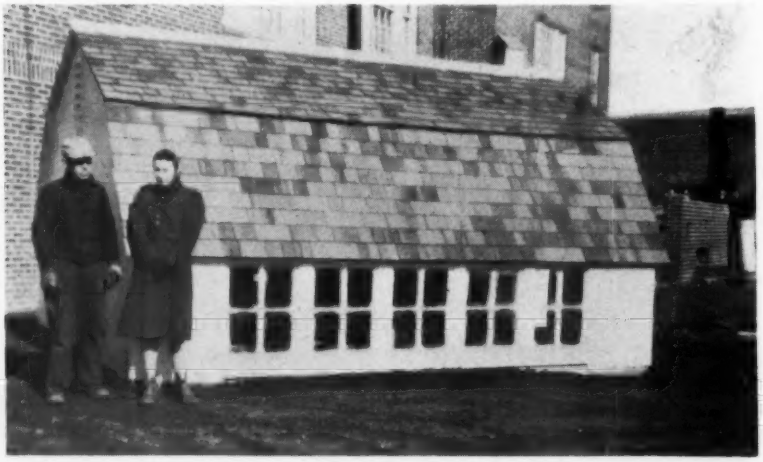
Not only did the practices actually demonstrated help the farmers to adopt them, but the facts which were presented to boys in all-day classes seemed to be accepted more readily by them as well as their fathers because they felt a confidence in the teacher which had been lacking in previous years.

News stories and civic club programs are all a part of a good teaching program in vocational agriculture, but it is my sincere opinion that owning and operating a farm in his own community is one of the best teaching devices a teacher can have—as well as a supplement to his usually modest salary. None of the calves shown by my students in the larger show has ever won first place, yet I have not been replaced by a new man. The men who expected the department of vocational agriculture to produce prizewinning calves above all else have become interested in seeing that vocational boys have sound farming programs.

"The pilot cannot mitigate the billows or calm the winds."—Plutarch

If you would convince a man that he does wrong, do right. Men will believe what they see. Let them see.

—Thoreau



A 10′ x 14′ brooder house built in the shop, Minburn, Iowa

"It is not what men eat but what they digest that makes them strong; not what we gain, but what we save that makes us rich; not what we read, but what we remember that makes us learned; and not what we preach, but what we practice that makes us Christians. These are the great and common truths, often forgotten by the glutton, the spendthrift, the bookworm and the hypocrite."—Bacon

A rule is given us because we lack intelligence; a principle because we have it. —Dr. Frank Crane

The greatest immediate return to the state comes thru the efficiency of our adult education.

Banquet Banter

Toastmaster: It is pleasure to present one of most interested honorary members as speaker this evening. Reverend Hill shows interest in every phase of Future Farmer activities — recreation, social, farming programs, and moral values. Some of you may have noted that, when James summarized farming programs few minutes ago, Reverend Hill took out notebook. I noticed he wrote as John reported boys with baby chick projects. You boys and your parents no doubt may expect visit from Reverend Hill when your "broilers are ripe." I learned that Reverend Hill had unusual experience in pastorate before coming here. Seems he was working in church study one afternoon with door open when stranger walked in. He, of course, was received by Reverend Hill and was asked his needs. Stranger asked if he would pray for him. Reverend Hill made inquiry as to difficulty and stranger said that he had floating kidneys. Reverend then explained that, while he believed in efficacy of prayer, he thought difficulty largely, if not entirely, physical and could be treated best by physician. Being interested in peculiar request, he asked why he had come with his difficulty. Stranger answered that he had stopped into church day before and heard Reverend Hill pray for "the loose livers in his congregation" and so hoped he might help floating kidneys.

The Speaker: The more I learn about these Future Farmers more I am impressed that you have to get up in morning to get ahead of them—not only as workers on farm but as toastmasters, as has just been illustrated. As John mentioned, I enjoy Future Farmers a lot and glad to work with them whenever I can. They are certainly willing, generous and, at times, very frank. Recall occasion last summer when young peoples' chorus agreed to assist in Sunday evening church services in one of less fortunate communities some distance from here. We secured small bus for transportation. When loaded, we were short two or three seats. Best substitute seemed to be chairs, so we used chairs from church, old folding chairs with slatted seats. I recall that toastmaster, generous as always, took one of chairs. Drive thru country was rather bumpy and took us thru hamlet where driver stopped moment to make inquiry about road. Had hardly stopped when John arose slowly and asked, "Anybody want my seat? My waffle is done."